DOCUMENT RESUME

ED 155 063 SE 024 364

TITLE Toward an Action Plan: A Report on the Intergovernmental Conference on Environmental Education. A Paper Developed by the Subcommittee on Environmental Education.

INSTITUTION Department of Health, Education, and Welfare, Washington, D.C.; Federal Interagency Committee on Education, Washington, D.C.

PUB DATE Mar 78

NOTE 40p.

AVAILABLE FROM Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 017-080-01838-1; No price quoted)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.

DESCRIPTORS *Conference Reports; Conferences; Developed Nations; *Developing Nations; Educational Needs; *Educational Planning; *Environmental Education; Intercommunication; *International Organizations; *World Problems

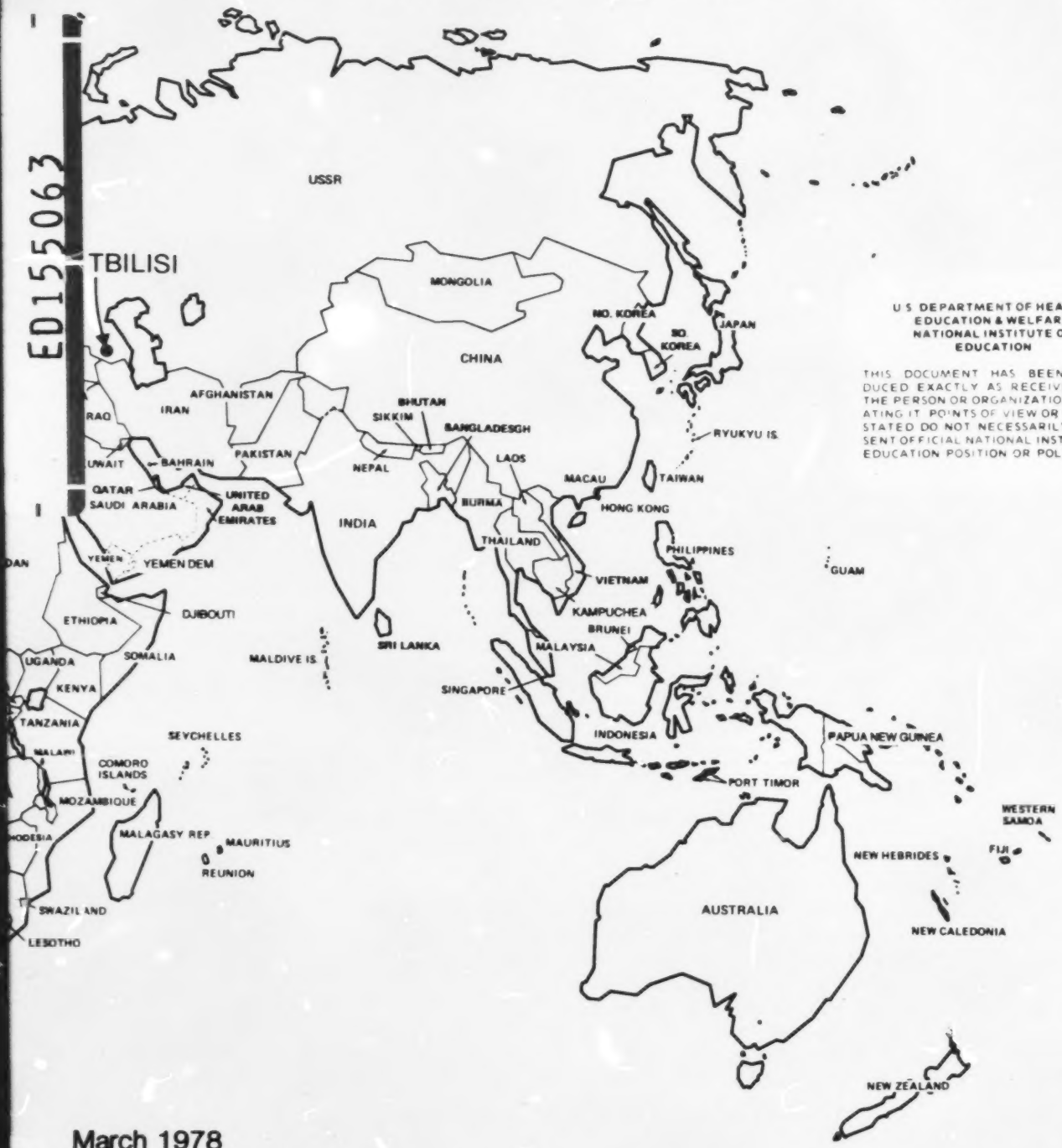
IDENTIFIERS UNESCO

ABSTRACT

This is a summary of the proceedings of the recent United Nations intergovernmental conference on environmental education held in Tbilisi, Russia. This report characterizes the attitudes of those who attended regarding environmental education and their preparations and perspectives for the conference. The efforts of UNESCO/UNEP for and during the conference are also described. Sections of the publication include introduction, the intergovernmental conference, pre-conference preparations, the conference sessions, highlights of the recommendations, and two appendices. Appendix A is the accepted final statement of the conference entitled "Declaration of the Tbilisi Intergovernmental Conference on Environmental Education." Appendix B is a summary outline of the 41 conference recommendations. Recommendations involve the role of environmental education, strategies for environmental education development nationally, and international and regional cooperation. The recommendations are intended to provide a baseline for future planning leading to an international plan of action for environmental education. Several recommendations were aimed at the UNESCO/UNEP role in environmental education. (MR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Toward an Action Plan: A Report on the Tbilisi Conference on Environmental Education



ED155063

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

March 1978
Federal Interagency Committee on Education
U.S. Department of Health, Education and Welfare

SE 024 364

FEDERAL INTERAGENCY COMMITTEE ON EDUCATION

Mary F. Berry, Chair

Assistant Secretary for Education

U.S. Department of Health, Education and Welfare

The Federal Interagency Committee on Education (FICE) was created by Executive Order in 1964 and operates under an updated mandate, Executive Order 11761, issued in January 1974. Chaired by the Assistant Secretary for Education, FICE's functions are to improve coordination of the educational activities of Federal agencies; to identify the Nation's educational needs and goals; and to advise and make recommendations on educational policy to heads of Federal agencies, to the Secretary of Health, Education and Welfare and through him to the President.

TOWARD AN ACTION PLAN:
A REPORT ON THE INTERGOVERNMENTAL CONFERENCE ON ENVIRONMENTAL EDUCATION

A paper developed by the Subcommittee on Environmental Education

Walter E. Jeske, Chairman

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402
Stock No. 017-080-01838-1

March 1978

U.S. Department of Health, Education and Welfare

Office of the Assistant Secretary for Education

Washington, D.C.

Preface

This report discusses the deliberations and resolutions of the United Nations Intergovernmental Conference on Environmental Education. The conference offered a valuable opportunity for a full exchange of views and examination of proposals in dealing with all aspects of the topic; recommendations that resulted merit the serious consideration of all educators and environmental policymakers.

In my opening statement on behalf of the United States delegation, I tried to place the issues before us in perspective. I said:

> The task before us is to put the world's education systems to work to make sure the changes (humans make in the earth's environment) are constructive ones. No longer can any society heedlessly develop its resources; this all of us accept and must teach to others. But neither can we take the opposite stand, opposing all progress because of potential environmental risk. Men and women do have the capacity to change the world to make it suit their needs. Where the benefits of economic development--in terms of alleviated poverty, improved nutrition, increased human comfort and safety--outweigh the environmental risks, we have an obligation to ourselves and our children to take that road to development. But an educated populace--and only an educated populace--is able to assess the benefits and the risks, and increase the former while minimizing the latter.

Our principal concern now must be to determine how our American Environmental Education community uses this report from Tbilisi. This document is not a record of deliberations now over and done--it is a template for us to use in converting its carefully conceived goals and policies into a vigorous national action plan. 1978 is the year for the various participants in our American educational system: 1) to define and rank our most immediate tasks; 2) to inventory our available resources--personnel, influence, money and expertise; 3) to begin to make provisions for anticipated shortfalls; and 4) to adopt assignments for ourselves as Federal, State or local governments, as industries, labor organizations and academic institutions, as professional societies, citizen groups and other voluntary associations.

We must move toward a coherent national strategy for environmental education that takes full advantage of the strength of our diversity. We must make sure that all essential items are provided for, that unnecessary redundancies do not squander our resources, and that adequate coordination is maintained.

To the early accomplishment of this forward-looking goal we dedicate our full energies and wholehearted cooperation. We earnestly solicit yours.

Mary F. Berry
Assistant Secretary
for Education

Toward an Action Plan:

A Report on the Intergovernmental Conference

on Environmental Education

Introduction

The Intergovernmental Conference on Environmental Education, the first ever held, took place from October 14 through 26, 1977, in Tbilisi, USSR. Organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in cooperation with the United Nations Environmental Program (UNEP), the Conference completed the latest phase of the UNESCO/UNEP International Environmental Education Program.

Sixty-six Member States of UNESCO sent official government delegations. Also attending were observers from two non-Member States, eight other United Nations organizations, three intergovernmental organizations and twenty international nongovernmental organizations.

The Conference was preceded by preparatory meetings and pilot projects that provided a substantial information base for the discussions. As indicated in the invitation letter, the purpose of the Conference was "to formulate recommendations for action which might be undertaken at the national, regional and international levels for the promotion and development of environmental education." In keeping with that charge, the Conference approved 41 recommendations on the various aspects of formal and nonformal education.

Despite the broad scope of environmental education and the controversial nature of many issues, there was notable consensus on the essentials of environmental education among the conferees who came from a wide range of political and cultural backgrounds. Given the mix of views, the complex logistics and the other strictures characteristic of international ministerial-level conferences, it was a most productive meeting.

The Intergovernmental Conference

About 340 delegates and observers participated in the meeting. The number of UNESCO Member States in each of the UNESCO regions

and the number of official delegations from each region that attended the Conference are listed below:

Region	UNESCO Member States	Delegations Attending Tbilisi
Africa (a)	35	13
Arab States	20	9
Asia and Oceania (a)	24	10
Europe (b)	37	28
Latin America & Caribbean	26	6
Total	142	66

(a) The figures used do not include states from other regions that, under UNESCO guidelines, are allowed to participate in activities of this region.
(b) This region includes Canada, Israel and the United States

The U.S. Delegation, appointed by the Department of State, included the following people:

Mary F. Berry, Assistant Secretary for Education, Department of Health, Education and Welfare (Head of Delegation)
Donald R. King, Department of State (Deputy Head of Delegation)
Alexander Barton, National Science Foundation
George Bennsky, Council on Environmental Quality
Carol A. Colloton, U.S. Department of State
Robert S. Cook, U.S. Department of the Interior
David Darland, National Education Association
Walter E. Jeske, U.S. Department of Agriculture
Thomas L. Kimball, National Wildlife Federation
Frederick H. Lawton, U.S. Department of State
George E. Lowe, U.S. Office of Education
Albert Printz, Agency for International Development
Marshall E. Purnell, American Institute of Architects
William Stapp, University of Michigan
Constantine Warvariv, U.S. Permanent Delegation to UNESCO
Penelope A. Williams, U.S. Department of State

Also attending the Conference from the United States was James L. Aldrich, Executive Director of the Alliance for Environmental Education, representing the International Union for the Conservation of Nature and Natural Resources (IUCN).

The Tbilisi Conference was not just a meeting of a few hundred people concerned with environmental education. This was a ministerial-level meeting of a type that is second in importance only to a UNESCO General Conference. In keeping with this level of responsibility, the meeting was conducted according to formal rules of procedure and in the five working languages of UNESCO: Arabic, English, French, Russian and Spanish. All formal presentations were translated into these working languages. Each formal action of the meeting was the product of official votes of delegates from Member States and, as such, they constituted formal international actions to be reported back to the appropriate member governments, the General Conference of UNESCO, and the Governing Board of UNEP, for action by those bodies.

Pre-Conference Preparations

The mandate for this international effort in environmental education was put forward at the 1972 United Nations Conference on the Human Environment in Stockholm. Recommendation 96 of that meeting reads:

> It is recommended that the Secretary-General, the organizations of the UN system, especially UNESCO, and the other international agencies concerned, should, after consultation and agreement, take the necessary steps to establish an international programme in environmental education...

UNESCO and UNEP took steps to respond to that recommendation by developing the UNESCO/UNEP International Environmental Education Program. The program, established in consultation with various other UN organizations and selected nongovernmental organizations, was designed to develop the technical cooperation needed to facilitate the coordination, planning, and implementation of environmental education in national, regional and international settings.

The UNESCO/UNEP program undertook four areas of activity:

- the preparation of materials on the current state-of-the-art in environmental education
- surveys on national and regional needs, and surveys on priorities for action
- several small pilot projects to field test different environmental education techniques and approaches
- a planned sequence of regional and international meetings.

All of these activities were considered part of that phase of the overall UNESCO/UNEP program leading to the formal intergovernmental conference

at which all recommendations would be reviewed and policy guidelines adopted for subsequent developments in environmental education at the national, regional, and international levels.

The UNESCO/UNEP program was officially launched in 1974 with preparations for the International Workshop on Environmental Education. That Workshop, to which UNESCO invited experts from 65 countries, was held during October 1975 in Belgrade, Yugoslavia. The experts were brought together to (1) refine and validate 15 papers on the trends in environmental education at all levels and covering all aspects of education and communications, (2) revise a comprehensive report derived from a survey of needs, resources, and priorities for environmental education in each of the UNESCO Member States, and (3) formulate guidelines and recommendations for an overall, cooperative international program of action for global environmental education.

The guidelines and recommendations developed at the Belgrade Workshop were used as basic working documents for a series of regional seminars in an effort to develop a strong correlation with the regionally perceived needs and priorities in environmental education. The purposes of the seminars were to:

- review, evaluate, and develop plans for implementing those recommendations of the workshop relevant to the respective regions
- prepare plans for regional participation in the Intergovernmental Conference
- develop ways and means of coordinating activities and resources among the various concerned agencies
- develop case studies of the lessons of environmental education, in terms of successes and failures
- contribute to the preparation of an international environmental education source book to give regions a more global perspective.

Regional seminars were conducted in Brazzaville, the People's Republic of the Congo; Bangkok, Thailand; Kuwait; Bogota, Columbia; Helsinki, Finland; and St. Louis, Missouri. (Reports on all of the seminars have been published - the first five by UNESCO and the last by the ERIC Center for Science, Mathematics, and Environmental Education at Ohio State University.)

Whereas the Belgrade Workshop and regional seminars were largely consultations among experts in environmental education, the Intergovernmental Conference in Tbilisi was an official meeting of national delegations. Many countries established planning committees to consider the recommendation

of the regional meetings and to prepare their nation's position for the Intergovernmental Conference. As a result of such efforts nearly all delegations came to the Conference well prepared. With few exceptions, delegations brought national reports for distribution and had prepared an official presentation for the Conference.

In the United States, for example, a large national task force was set up under the Federal Interagency Committee on Education. The 70 members of this group were drawn from the various sectors of the federal and state governments, industry, academia and nongovernmental organizations. Beginning in December 1976, this broadly representative group invested substantial effort in reviewing materials, developing proposed positions for the U.S. Delegation and suggesting for consideration by the Department of State the nature of the U.S. Delegation. Largely as a result of these efforts, the U.S. Delegation arrived in Tbilisi with a set of officially sanctioned positions to present, knowledge of the often diverse views of U.S. groups and individuals who are concerned with environment and education, and copies for distribution of "The Fundamentals of Environmental Education," and "A Sampler of Environmental Education Activities in the United States of America."

The Conference Sessions

The main substantive agenda items considered by the Conference were:

- Major environmental problems in contemporary society
- Role of education in facing the challenges of environmental problems
- Current efforts at the national and international levels for the development of environmental education
- Strategies for the development of environmental education at the national level:
  - (a) General environmental education of the public through formal and nonformal education
  - (b) Environmental education (including in-service education) of particular professional groups whose actions and decisions have implications for the environment
- Regional and international cooperation for the development of environmental education: needs and modalities

The reason for focusing the first agenda item on major environmental problems was to provide a relevant backdrop for consideration of the need for and scope of environmental education. Accepting the complexities involved in discussing worldwide environmental issues, there was considerable agreement that they are matters of global concern that affect the interests of each nation. The linkage between environmental quality and economic development was considered. Conference participants agreed that these two objectives need not be treated as mutually exclusive alternatives, but must be reconciled so as to achieve sustainable development within environmental constraints. Because of the large number of environmental professionals who took part in the Conference, it was possible to explore this matter in the real world context of those that make and live with these decisions. As Dr. Mostafa K. Tolba, Executive Director of UNEP, stated in his opening remarks:

> The problem is not how to choose between environmental protection and achievement of development goals, but how to direct development so as to ensure maximum human benefits from the environment for both present and future generations. Environment and development relationships, as a matter of fact, appear to be the key issue and a wider view of these relationships demands a wider view of environmental education.

It was clearly recognized that environmental problems are not just the plague of more developed nations. But the problems of the developing countries were recognized as different from those of more developed nations. For the developing countries, the environment problems discussed were tied to underdevelopment, or to development problems associated with human settlements, environmental health and nutrition, susceptibility to natural disasters, poor agricultural methods and too rapid exploitation of natural resources.

The developed, or industrialized, countries presented a range of complex environmental problems with which they must contend. Many of the problems are related to new materials and manufacturing processes that have been introduced without anticipation of their ultimate impacts on the environment. The root cause of many of these problems was identified as the failure to understand the complex nature of the world and the extent to which systems interact. Isolating parts of a system in order to analyze separate elements has masked the powerful influence of the interactions among various elements and systems.

Among globally shared environmental problems considered were the impact of human activities on climate, the extinction of some species of flora and fauna, the diminishing equatorial forest and, some more regionally focused problems, such as the management of water resources, the impacts of major engineering works, and the spread of deserts.

The next two items on the agenda dealt with the role of education in facing environmental problems, with a review of environmental education activities currently underway at the national and international levels.

Environmental education was recognized not only as a concern in formal school settings but as a balanced program employing the mass media, nongovernmental organizations, and various other out-of-school approaches. The sense of this was captured in an IUCN position paper, submitted to the Conference, that states:

> "Education" covers an enormously wide field of activity ranging from formal education in preparation for a vocation or specific qualification to nonformal education which merges with communication, entertainment and public relations work or even with liaison between governmental and nongovernmental organizations, community action groups and societies.

There was considerable stress throughout the meeting on the need to strengthen national and regional capabilities for planning and implementing environmental education activities. Also emphasized was the need for a world action plan. Conference participants stated that such a plan should be based on realistic objectives and, according to the delegate of Canada, "should be adapted to the regions in which it would be applied." The delegate of Norway echoed the Canadian suggestion and "hoped the Conference would lay the foundations for a world plan of action." The Conference did not produce a world plan of action, but the recommendations that were adopted provide the essential elements of an action plan. As Mr. Amadou Mahtar M'Bow, Director-General of UNESCO, states, "the body of ideas you have formulated and the recommendations you have submitted... form the equivalent of a plan of action such as a number of delegations wished to see adopted."

The major part of the Conference was devoted to discussion of specific recommendations to meet the challenge for environmental education. For the most part, these discussions avoided the verbal pitfalls of political and economic rhetoric. The delegates produced a large number of proposals on what should be done and how it might be accomplished. These draft recommendations were fed into the hands of drafting committees that synthesized them into fewer, more concisely written statements that were brought back to the plenary sessions for consideration.

The Draft Final Report distributed at the closing plenary session was a remarkable achievement of the combined efforts of the drafting committees and the Conference Secretariat. Included in the report was an international framework for environmental education that contained a goal statement, objectives, guiding principles, and a list of target audiences for environmental education. A statement entitled the "Declaration of the Tbilisi Intergovernmental Conference on Environmental Education" (see appendix A) was adopted by the Conference at the closing session. That statement provides a general background for and introduction to the 41 recommendations adopted by the governmental representatives present at Tbilisi.

There were many intangible results of the Conference in the form of greater appreciation of the global need for environmental education, an improved understanding of the dimensions and potential of environmental education, the further development of a positive philosophy of environmental education, and a strengthened global network of concerned educators and environmentalists. The tangible achievements that undergird those results are the recommendations adopted by the delegates and forwarded by their action to international agencies and to all the Member States of UNESCO.

Highlights of the Recommendations

A summary of each of the adopted recommendations is included in appendix B. What follows are some of the highlights of the Tbilisi recommendations.

The first five recommendations under the heading of "The Role of Environmental Education," seek to broaden the basis for environmental education in a way that will meet some of the developmental and human service needs felt by the developing countries. These recommendations stress the need for embracing the full range of formal and nonformal education in environmental education efforts. Closely related to this concern is the promotion of a systems approach as an essential element in environmental education.

The second group of recommendations (6 - 21) are labeled "Strategies for the Development of Environmental Education at the National Level." Much that is included in those recommendations is similar to the statements made at numerous environmental education meetings held in the United States.1/ Of special interest are topics that have not received much attention in the United States--education about the work environment, education dealing with wasteful and detrimental consumption behavior, vocational training that includes environmental implications for workers in different vocations, and the collective effects of related vocations upon the environment. A noteworthy emphasis was placed on the need for research and evaluation in environmental education to provide a better foundation for educational policy decisions.

The last 20 recommendations (22 - 41) appear under the heading of "International and Regional Cooperation." As a major area of concern at an intergovernmental meeting, the recommendations in this section build on those found in the preceding sections. Throughout the

---

1/ For example, see (a) "Perspectives and Prospectives: Key Findings and Major Recommendations," The Alliance for Environmental Education, 1975; (b) "Perspectives and Prospectives: Supporting Documentation," The Alliance for Environmental Education, 1975; (c) "A Report on the North American Regional Seminar on Environmental Education," The Alliance for Environmental Education, 1976. (All published by ERIC/Smeac, Ohio State University, Columbus.)

Conference a great deal of attention was paid to the need to strengthen regional networks of communication and cooperation. Several specific recommendations, and inferentially many others, address this issue. UNESCO is urged to improve the capability of its regional offices to assist the development of environmental education by providing specialized staff and by expanding the functions of the offices in this substantive area. National coordination structures are recommended as an essential ingredient in developing baselines for regional action, for without national commitment and action, the fundamental resource for regional activities is missing. Several items encompassed in earlier recommendations are repeated in this section to emphasize the international aspects--the exchange of information, the promotion of research, and the concept of environmental education as a process continuing into adulthood. The important role that nongovernmental organizations and voluntary bodies should play with respect to the development of environmental education at the local, national and international levels is the focus of one recommendation.

Among the important recommendations adopted by the Conference is one that carries the simple title of "International Institutions and Mechanisms." This statement is directed primarily to UNESCO and UNEP and suggests both the roles that they should play and the modes of operation they should adopt. It recommends that UNESCO, because of its experience and education networks, should take the leading role in the development and implementation of environmental education. The role of coordinating the diverse environmental efforts of United Nations agencies is delegated to UNEP because of its special expertise and contacts in environmental matters. Cooperation among all the United Nations agencies is stressed as important to the achievement of the overall program envisaged by the conferees. This recommendation is important because of lack of agreement between these two bodies prior to and during the meeting over how the responsibilities and authority for action in environmental education should be allocated.

The Draft Final Report and the recommendations are generally conformable to environmental education as it has been debated, developed, and applied in the United States, partly reflecting the fact that the U.S. Delegation had prepared well and interacted effectively both on the floor and in the various drafting groups. But no delegation attempted to dominate the proceedings--the final product faithfully reflects the global nature of the task that was before the governmental representatives. The concerns of the developing countries combined with the experience of the more developed nations led to a broadening of every participant's understanding of the potentials of environmental education.

An international environmental education conference cannot accomplish very much environmental education in and of itself. Its role is to define problems, to suggest approaches to resolving those problems and most especially, to focus the attention of governments on environmental education as one effective tool in their efforts to wisely develop the

earth's resources and enhance the quality of life while safeguarding the ecosystems upon which all life ultimately depends.

Agenda Items for the Future

There have been thousands of items printed in recent years on environment and education; meeting reports, articles, books and legislation. Most of them have contributed something to a better understanding of the situation. More and more, these same materials give evidence of concern for long-term, coordinated solutions to the problems that have been identified. So far, however, we have been more successful in delineating problems than in applying realistic solutions.

One of the more persistent bottlenecks has been the lack of willingness to set priorities and then take action based on those priorities. Too often, recommendations are not coupled with choices for action. Even more rarely are they placed in a framework for achieving results. These weaknesses in the approach to environmental education problem resolution appear at the international level, in the developing countries, and in the institutional resistance to change in the United States.

The challenge passed on from the Intergovernmental Conference to the concerned groups and agencies in the United States is to use the results of that meeting to develop an environmental education policy for domestic and international activity. The immediate task is to assign priorities to the different elements, prepare a plan of action specifying who should do what, and then implement the plan in a coordinated way. The plan must not be a rigid prescription for the future but a flexible guide with feedback loops for assessing progress and making adjustments.

The preparation of program policy--at all levels of education and government--is an important first phase in any effort to bring environmental education into the mainstream of national and international thinking about education. A policy declaration would clearly communicate the ends and means intended by any given effort and the rationale by which the ends and means were determined. The United States would enhance its ability to meet the challenge tendered by the Tbilisi recommendations by developing an environmental education policy statement as a basis for coordination among the many important federal program activities. That statement should take into account recommendation 20, which suggest that Member States establish national structures to facilitate the implementation of environmental education.

International efforts are ultimately based on actions taken by agencies, institutions, and people in each nation. For commitments to occur at all levels, responsible officials at local and state levels, those in professional societies, nongovernmental organizations and higher

education institutions must be convinced of the need to reallocate resources at their disposal in order to advance education about environmental concerns.

In the face of the many issues confronting American education, it is unlikely that there will be any overnight conversion of educators and the public to a major commitment to environmental education. It will take time and persistent effort to turn the Tbilisi pronouncements into achievable and measurable results.

Although acceptable in principle, many of the ideas put forward at the Conference will require discussion, development and trial in the crucible of real world situations. Some of the items requiring thought and study include:

- At the Tbilisi meeting, there was a broader acceptance and appreciation of a more human focused definition of environmental education than has been the case at other international meetings dealing with environmental issues. Indeed, there seemed to be more emphasis on the quality of life as contrasted with environmental quality alone. This offers good prospects for coping with education issues, such as urban environment and human habitat, that have often fallen outside the scope of successful environmental education activity. While the statements do not, of course, solve the problems they do provide a recognition of the concerns and may well lead to a redirection of environmental education development.

- With respect to formal education systems in particular, more attention was placed on something that has been labeled as "environmentalized education" in contrast to environmental education. This type of thinking undoubtedly contributed significantly to the improved dialogue between educators and environmentalists. It made it possible to explore with more determination the contribution that environmental education can and should make to the renewal of education in general. The charge was set by Mary Berry, Head of the American Delegation, in her address to the Conference when she noted:

  > We are here to see that the world's new awareness of the importance of our relationship to the environment - a new environmental conscience - suffuses all education, all teacher training, all coursework in whatever subject--and, indeed, all the education activities of life.

- Considerable emphasis was given the proposition that environmental education should be an important factor in the overall renewal of education, but there was virtually no discussion of how it might be made to happen. An

examination of how environmental education can contribute to or stimulate educational innovation and reform would appear to be in order.

- The linking of environmental and developmental concerns in developed and developing areas of the world is important to the generation of a positive statement of environmental education policy that embraces the concerns of the developing countries. Such linkage would advance the possiblity of creating a true global network of people committed to the development and implementation of environmental education. It will require the combined efforts of natural resource management and social service agencies in cooperation with education bodies to translate these sentiments into performable education programs.

- A range of environmental education research activities were suggested as a means of providing a baseline for educational policy decisions, but the definition of topics and possible avenues of investigation were not adequately explored. These need to be assessed in terms of the major thrusts in American education and in terms of the missions of those agencies conducting environmental education activities. Effort should be directed to making use of research findings from other fields that deal with content or methodologies related to environmental education needs.

- The need for in-service training or continuing education was emphasized in Conference discussions and became the focus of several recommendations. While the recommendations indicate that programs should be provided for everyone, priority is given to meeting the environmental education needs of professionals in various fields, e.g. teachers, scientists, engineers, administrators, planners, industrialists, agriculturalists and trade unionists.

- Despite the improvement in communication and understanding on environmental education matters, there remains a real need to develop standardized terms of reference and perhaps a taxonomy to aid future program development.

- Many of the recommendations were directed to UNESCO and/or UNEP. In the United States, the question is to what extent will the education and environment communities take a strong interest in monitoring program implementation by these agencies in the face of the relatively low priority assigned to international activities by the American public. There is a clear suggestion to UNESCO Member States that they take the

necessary steps to implement the results of the Conference. Thus, federal agencies should examine the Conference recommendations and determine how they can implement them. The label "Intergovernmental Conference," however, should not be taken to exclude the nongovernmental organizations and voluntary bodies concerned with environmental matters. They must be an integral part of environmental education in this country.

- The international follow-up to Tbilisi must be not limited to monitoring the efforts of international agencies. Member States are encouraged to foster bilateral, regional and international cooperation in environmental education. What is called for is technical cooperation in which the various partners can expect to achieve mutual benefits. After the euphoria of an international meeting fades away, there is a tendency to place a low priority on international action. It would be a serious flaw in the United States response to the Conference and the work that was accomplished there if every effort is not made to implement the recommendations across national boundaries.

For the United States, which has posted an impressive amount of environmental education activity, this action agenda suggests a new phase of coordination of existing efforts and the development of a more rigorous intellectual base for environmental education.

Conclusion

The Conference closed on a high note of commitment to the continuing development of environmental education. The meeting was free of political diatribes, and the recommendations, although of a fairly general nature, do provide a baseline for planning next steps. The 41 recommendations adopted by the participants represent sound objectives for developing and effectively implementing environmental education. While the recommendations are in themselves less than specific, they clearly point the way for governments to convert them into more specific task assignments that can be programmed for results.

In the last analysis, environmental education is a matter of application. It is not enough to know what to do, it is a matter of doing it. The test is not to be found in philosophy and well turned phrases but in positive action. Its only real value is performance.

DECLARATION OF THE TBILISI INTERGOVERNMENTAL CONFERENCE ON ENVIRONMENTAL EDUCATION

The Intergovernmental Conference on Environmental Education, organized by UNESCO in cooperation with UNEP, convened in the city of Tbilisi reflecting the harmony and consensus achieved there, solemnly adopts the following Declaration.

In the last few decades, man has, through his power to transform his environment, wrought accelerated changes in the balance of nature. The result is frequent exposure of living species to dangers which may prove irreversible.

The Declaration of the United Nations Conference on Human Environment organized in Stockholm in 1972 proclaimed: "to defend and improve the environment for present and future generations has become an imperative goal for mankind." This undertaking urgently calls for new strategies, incorporated into development, which particularly in the developing countries is a prerequisite for any such improvement. Solidarity and equity in the relations between nations should constitute the basis of a new international order, and bring together, as soon as possible, all available resources. Education utilizing the findings of science and technology should play a leading role in creating an awareness and a better understanding of environmental problems. It must foster positive patterns of conduct towards the environment and the nations' use of their resources.

Environmental education should be provided for all ages, at all levels and in both formal and nonformal education. The mass media have a great responsibility to make their immense resources available for this educational mission. Environmental specialists as well as those whose actions and decisions can have a marked effect on the environment, should be provided in the course of their training with the necessary knowledge and skills and be given a full sense of their responsibilities in this respect.

Environmental education, properly understood, should constitute a comprehensive lifelong education, one responsive to changes in a rapidly changing world. It should prepare the individual for life through an understanding of the major problems of the contemporary world, and the provision of skills and attributes needed to play a productive role towards improving life and protecting the environment with due regard given to ethical values. By adopting a holistic approach, rooted in a broad interdisciplinary base, it recreates an overall perspective which acknowledges the fact that natural environment and man-made environment are profoundly interdependent. It helps reveal the enduring continuity which links the acts of today to the consequence for tomorrow. It demonstrates the interdependencies among national communities and the need for solidarity among all mankind.

Environmental education must look outward to the community. It should involve the individual in an active problem-solving process within the context of specific realities, and it should encourage initiative, a sense of responsibility and commitment to build a better tomorrow. By its very nature, environmental education can make a powerful contribution to the renovation of the educational process.

In order to achieve these goals, environmental education requires a number of specific actions to fill the gaps that, despite outstanding endeavors, continue to exist in our present education systems.

Accordingly, the Tbilisi Conference:

Appeals to Member States to include in their educational policies measures designed to introduce environmental concerns, activities and contents into their education systems, on the basis of the above objectives and characteristics;

Invites educational authorities to promote and intensify thinking, research and innovation in regard to environmental education; and

Urges Member States to collaborate in this field, in particular by exchanging experiences, research findings, documentation and materials and by making their training facilities widely available to teachers and specialists from other countries;

Appeals, lastly, to the international community to give generously of its aid in order to strengthen this collaboration in a field which symbolizes the need for solidarity of all peoples and may be regarded as particularly conducive to the promotion of international understanding and to the cause of peace.

CONFERENCE RECOMMENDATIONS SUMMARIZED

I. The Role of Environmental Education (EE)

A. Recommendation 1: Definition and Objectives

1. Aims of EE:

a. Environmental education should aim at creating awareness, behavioral attitudes and values directed toward preserving the biosphere, improving the quality of life everywhere as well as safeguarding ethical values and the cultural and natural heritage including: holy places, historical landmarks, works of art, monuments and sites, human and natural environment, including fauna and flora and human settlements.

2. Recommends to Member States:

a. Creation of specialized EE units with terms of reference including:

1) training of leaders
2) development of school curricula
3) preparation of books and scientific reference works
4) determination of methods and media

B. Recommendation 2: Role and General Scheme

1. Recommends to Member States:

a. Integration of EE into general policy, including:

1) sensitization of general public
2) development of more information
3) encouragement of action in family and concerned associations
4) assignment of central role to the school
5) expansion of environmental studies in higher education
6) establishment of in-service training policy for decisionmakers in government and society

C. Recommendation 3: Systems Approach

1. Recommends to Member States:

a. Promote deeper understanding of the natural environment
b. Develop a systems approach to the analysis and management of natural and man-made ecosystems
c. Consider the temporal dimension of each environment

D. Recommendation 4: EE Development Criteria and Guidelines

1. Recommends to Member States:

a. Adoption of criteria to guide development of EE at the national, regional and international levels, including:

1) consideration of ethical, social, cultural and economic dimensions
2) show the economic, political and ecological interdependence of the world
3) Integrated perception of environmental problems
4) Provide a closer link between education and real world
5) EE as a continuing process for all ages and socio-professional groups
6) Use of all available public and private facilities--the formal education system, nonformal education and the the mass media

E. Recommendation 5: Systematic Evaluation of Environmental Impact of Economic Development Activities

1. Recommends to Member States:

a. Establish environmental training which includes the evaluation of development

II. Strategies for the Development of Environmental Education at the National Level

A. Recommendation 6: Goals, Objectives and Guiding Principles

1. Goals of EE:

a. "to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas;
b. to provide every person with opportunities to acquire the knowledge, values, attitudes, commitments and skills needed to protect and improve the environment;
c. to create new patterns of behavior of individuals, groups and society as a whole towards the environment."

2. Categories of EE Objectives:

a. "Awareness: to help social groups and individuals acquire an awareness of and sensitivity to the total environment and its allied problems.
b. Knowledge: to help social groups and individuals gain a variety of experience in and acquire a basic under-

standing of the environment and its associated problems.

c. Attitudes: to help social groups and individuals acquire a set of values and feelings of concern for the environment, and the motivation for actively participating in environmental improvement and protection.
d. Skills: to help social groups and individuals acquire the skills for identifying and solving environmental problems.
e. Participation: to provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolution of environmental problems."

3. Some Guiding Principles for EE:

a. Consider the environment in its totality
b. A continuous lifelong process
c. Interdisciplinary approach
d. Examine major environmental issues from local, national, regional, and international points of view
e. Focus on current and potential environmental situations, remembering the historical perspective
f. Promote the value and necessity of local, national and international cooperation
g. Explicitly consider environmental aspects in plans for development and growth
h. Learners to have a role in planning learning and an opportunity for making decisions and accepting their consequences
i. Relate environmental sensitivity, knowledge, problem-solving skills and values clarification at every age
j. Help learners discover symptoms and real causes of environmental problems
k. Emphasize complexity of problems
l. Use diversity of experiences and approaches

B. Recommendation 7: The Work Environment

1. Recommends to Member States:

a. Adoption of the following objectives as guidelines:

1) Provision of general knowledge of the work environment in primary and secondary schools
2) Education for specific careers should include education about the particular work environment and information about environmental health standards
3) Work environment problems should be part of the education of key decisionmakers
4) Relevant in-service education should be offered to workers
5) Appropriate education should be provided to those teaching about the work environment

C. Recommendation 8: Model Programs

1. Recommends to UNESCO:

   a. Establishment of model EE programs for the general public

2. Recommends to Member States:

   a. Preparation of programs that provide information about major environmental impacts of present or planned activities

D. Recommendation 9: Consumption Behavior

1. Recommends to Member States:

   a. Encouragement amongst consumers, producers, mass media and educational authorities to give more attention to environmentally detrimental behavior and of the possible harmful and wasteful use of consumer goods
   b. Consumers should be made more conscious of the mechanisms for influencing the production of such goods

E. Recommendation 10: Pre-Service Teacher Education

1. Recommends to Member States:

   a. Inclusion of EE in initial teacher education curricula

F. Recommendation 11: In-Service Teacher Training

1. Recommends to Member States:

   a. Provision of in-service training in EE for all who need it
   b. Implementation and development of in-service EE training be done in close cooperation with national and international teachers organizations
   c. In-service training should be based on the area, i.e. either urban or rural, where the teachers are working

2. Recommends to UNESCO:

   a. Dissemination of ideas, programs and instructional materials relevant to in-service education

G. Recommendation 12: Initial Education of Professionals

1. Recommends to Member States:

a. Inclusion of interdisciplinary EE in education of professionals whose activities have, directly or indirectly, major impact on the environment, e.g. economists, business administrators, architects, planners, and technicians

H. Recommendation 13: Environmental Education of Existing Professionals

1. Recommends to Member States:

a. Provision of incentives to practicing professionals to encourage in-depth supplementary and in-service training or continuing education, including post-graduate programs in EE

I. Recommendation 14: Vocational Training

1. Recommends to Member States:

a. Inclusion of EE in curricula of those undertaking vocational technical education
b. Emphasis should be given to (1) environmental implications for workers, and (2) the collective environmental effects of related vocations

J. Recommendation 15: EE for Other Groups

1. Recommends to Member States:

a. Provision of education for the general public at every age level and at all levels of formal education plus in the various nonformal education activities
b. Education of specific occupational or social groups with various levels in formal and nonformal education contributing
c. Training of certain professionals and scientists working on specific environmental problems

K. Recommendation 16: Curriculum Development

1. Recommends to Member States:

a. Inclusion of EE in existing curricula and creation of new environmental curricula
b. Development of problem-oriented and action-oriented EE programs
c. Develop criteria on which to base environmental content, taking into account local, social, occupational and other factors
d. Examine the potential of appropriate institutions to carry out research into the development of EE curricula and programs

e. Developers of curricula, teaching programs and materials should study the problems linked with single subject, multidisciplinary and interdisciplinary approaches
f. All approaches should give full and adequate emphasis to the teaching of ecological concepts
g. EE policies should be accompanied by positive strategies for socio-economic development

2. Recommends to UNESCO in cooperation with UNEP:

a. Assistance be given to the initiation and expansion of pilot EE projects, especially in developing countries
b. Special attention should be given to urban problems and the special needs of rural populations
c. Consider supporting courses, seminars and workshops in EE curriculum development
d. Assist Member States to establish EE research programs in higher education institutions

l. Recommendation 17: Teaching Aids and Materials

1. Recommends to Member States:

a. Formulation of basic principles for preparation of model textbooks and reading materials for all levels of formal and nonformal education
b. Use should be made of existing documentation and research findings when it is felt necessary to develop new low-cost teaching aids and materials
c. Teachers should be involved in the preparation of EE instructional materials

M. Recommendation 18: Research and Evaluation

1. Recommends to Member States:

a. Development of national policies and strategies furthering EE research projects and incorporating their finds into the general education system
b. Promotion of research concerning:

1) EE goals and objectives
2) Epistemological and institutional structures
3) Knowledge and attitudes of individuals
4) Conditions that foster EE development
5) Development of education methods and curricula particularly for mass media
6) Design and development of interdisciplinary curricula low-cost methods and materials for educators self help

c. Include research methodologies for designing and developing EE methods and instruments in teacher education
d. Promote exchanges of information
e. Systematic analysis of experience and materials from other sources for local use

N. Recommendation 19: Dissemination of Information on EE

1. Recommends to Member States:

a. Organization of public information campaigns
b. Support for nonformal EE activities of institutions and associations, including youth organizations
c. Development of formal and nonformal EE programs for all sectors of the population
d. More effective dissemination of knowledge about environmental protection and improvement
e. Organization of training courses for journalists, newspaper editors, radio and television producers and other mass media personnel

2. Recommends to UNESCO:

a. More effective dissemination of information about activities, experiences and results in EE

3. Recommends to UNESCO in Cooperation with UNEP:

a. Promotion, through the encouragement of national, regional and international organizations, of a network of exchange for EE information for each region and suitable for mass media

O. Recommendation 20: Strategy

1. Recommends to Member States:

a. Establishment of national organizational structures for EE functions, including:

1) Development of relationship with UNESCO and other relevant agencies
2) Coordination of EE initiatives
3) Serve as an EE consultative body at the governmental level
4) Act as a clearinghouse and information center on EE training
5) Promotion of collaboration among EE associations, citizen groups, and the scientific, research, and education communities

6) Provision of guidelines for the establishment of EE action committees
7) Assess the need for research, development and evaluation in EE
8) Encourage and facilitate EE efforts of NGO's

P. Recommendation 21: EE at Colleges and Universities

1. Recommends to Member States:

a. Review university potential for conducting EE research
b. Development of teaching aids and textbooks for all fields on the theoretical bases of environmental protection

III. International and Regional Cooperation

A. Recommendation 22: Training

1. Recommends to UNESCO, in collaboration with FAO, ILO and UNEP, and Member States:

a. Cooperative efforts to train farmers in environmental issues

2. Recommends to UNESCO with UNEP aid:

a. Establishment of regional training programs in the Economic and Social Commission for Asia and the Pacific (ESCAP) region

3. Recommends to Member States:

a. Formation of pluridisciplinary teams of doctors plus sanitation and hygiene engineers and technicians

B. Recommendation 23: Special Aspects of EE

1. Recommends to UNESCO and Member States:

a. That EE programs include:

1) Education on the cultural heritage
2) Education dealing with the improvement of human settlements

C. Recommendation 24: Improving the Existing Infrastructure for Information and Exchanges in the Field of EE

1. Recommends to Member States:

a. Identification of an existing institution as a national information center for the dissemination of information and experience

b. Collection and circulation of all relevant EE information in cooperation with governmental and nongovernmental organizations

2. Recommends to UNESCO:

a. Support of the establishment and operation of an international network for such centers

D. Recommendation 25: Follow-up Action

1. Recommends to Member States:

a. Implementation, in the broadest possible way, the results of this Conference
b. Fostering bilateral, regional and international cooperation throughout EE and extending advice to other Member States and their organizations

2. Recommends to UNESCO General Conference:

a. Take into account the Tbilisi recommendations
b. Decide on the convening of a second Intergovernmental Conference on EE

3. Recommends to UNESCO Director-General

a. Establishment of a regular information bulletin, or service, covering all aspects of EE

E. Recommendation 26: UNESCO Regional Offices and Specialists

1. Recommends to UNESCO

a. Ensure that the Regional Offices of UNESCO serve as coordinating agencies for development of EE programs at subregional and regional levels and that their staff include an EE specialist

F. Recommendation 27: Social, Economic, Cultural and Psychological Factors Relevant for EE

1. Recommends to UNESCO with the assistance of UNEP:

a. Work further on the definition of the framework for EE

2. Recommends to International Organizations, Responsible Authorities and NGO's:

a. Promotion of relevant studies and research that increase the involvement of the social and human sciences in EE
b. Use the results of these studies in the formation of specific goals and the selection of appropriate means for EE programs

G. Recommendation 28: National Coordination Centers and International Cooperation

1. Recommends to Member States:

a. The establishment of national EE centers for the coordination of EE activities

2. Recommends to UNESCO with the assistance of UNEP:

a. Development of regional and international cooperation in EE

H. Recommendation 29: EE at the Regional Level (Africa)

1. Recommends to UNESCO:

a. Establishment of an EE resources, materials development and dissemination center in Africa in 1978-79

I. Recommendation 30: Children and the Environment

1. Recommends to UNESCO:

a. Establishment of a draft education program under the general title of "The Child and the Environment"

J. Recommendation 31: Development of International EE Programs

1. Recommends to UNESCO:

a. Extension of the framework of EE activities linking them with the whole of UNESCO's educational activity
b. Study the role of international governmental and nongovernmental organizations with respect to the problems discussed at the Tbilisi Conference
c. Organization of periodic conferences and seminars of officials and specialists responsible for EE
d. Further development of the International EE Program with the assistance of UNEP

K. Recommendation 32: Expansion of UNESCO Regional Offices Functions

1. Recommends to UNESCO:

   a. Expansion of the functions of UNESCO Regional Offices so that they can, in cooperation with National Commissions, aid:

      1) Development and adaptation of instructional material
      2) Creation of regional source books
      3) Encouragement of the activities of youth groups and NGO's
      4) Provision of educational opportunities for teachers and school administrators
      5) Supply EE materials for mass media use
      6) Organization of expanded programs of pilot research, documentation and evaluation

   b. Development of model training courses and seminars in cooperation with UNEP
   c. Issue global directories of EE organizations and personnel
   d. In consultation with UNEP, regional and international organizations, proclaim specific environmental topics to be treated on a worldwide scale

L. Recommendation 33: Sponsorship of the Annual EKOFILM Festival

1. Invites the UNESCO Director-General:

   a. Sponsor the Czechoslovakia annual EKOFILM festival

M. Recommendation 34: Cooperation with Nongovernmental Organizations

1. Recommends to Member States:

   a. Support of nongovernmental organizations and voluntary bodies at local, national, subregional and regional levels
   b. Encourage environmental awareness among organizations such as professional teachers' and other nongovernmental organizations

2. Recommends to NGO's:

   a. Incorporation of EE activities into their programs

3. Recommends to UNESCO:

   a. Cooperate closely with and support of NGO EE activities

N. Recommendation 35: Coordination of Activities in Asia

1. Recommends to UNESCO:

   a. Establishment of a consultative committee to coordinate activities in the Asian region
   b. Support national committees as aid to consultative regional committee

O. Recommendation 36: Regional Cooperation

1. Recommends to UNESCO:

   a. Use of existing regional organizations, e.g. the African Social Studies Programme, Science Education Programme for Africa and African Curriculum Organization, as resource centers and clearinghouses for EE
   b. Provision of EE documentation to these organizations
   c. Extension of research and training facilities to these organizations

P. Recommendation 37: Support for International Youth Meetings

1. Recommends to UNESCO with the assistance of UNEP:

   a. Continue material and moral support to international youth gatherings
   b. Ensure presence of responsible representation from these groups at intergovernmental meetings and meetings of experts organized by UNESCO and UNEP

2. Recommends to Member States:

   a. Provide assistance for the organization of these meetings

Q. Recommendation 38: Development of Regional and International Cooperation

1. Recommends to UNESCO in collaboration with UNEP:

   a. Assistance to existing African regional organizations in the implementation of Conference recommendations
   b. Development of national, regional and international EE cooperation

R. Recommendation 39: Consideration of Conference Recommendations in UNESCO Budget and Program

1. Recommends to the UNESCO Director-General:

a. Ensure that the Conference reccmmendations are taken into account in planning future UNESCO programs starting with the preparation of the budget for 1979-80

S. Recommendation 40: Promotion of Research

1. Recommends to UNESCO:

a. Stimulation of international cooperation in order to promote research as a basis for the design, development, application and evaluation of:

1) Documentation for use by the general public and by teachers
2) Low cost research material
3) Instruments of interdisciplinary methodology

b. To this end, priority emphasis should be laid on:

1) "Determining the objective of EE
2) determining the obstacles (epistemological, cultural or social) restricting access to educational messages and to their utilization
3) determining qualification requirements and ways which they may be met."

T. Recommendation 41: International Institutions and Mechanisms

1. Recommends to UNESCO:

a. To take a leading role in formal and nonformal EE development using existing institutions and mechanisms at regional and subregional levels
b. Strengthen its regional offices with EE program components including specialist personnel and use work of all its sectors, especially Man and the Biosphere Program, for EE development

2. Recommends to UNEP:

a. To continue its coordination of environmental programs throughout the UN system

3. Recommends to UNESCO and UNEP:

a. Strengthen their cooperation in implementing recommendations
b. Encourage and support the role of regional and subregional organizations in EE
c. Encourage and support the EE activities of intergovernmental and nongovernmental organizations

NOTE: Post-conference editing by UNESCO will eliminate obvious repetition in the wording of the recommendations, and the overall style of presentation will be revised.

FEDERAL INTERAGENCY COMMITTEE ON EDUCATION

Subcommittee on Environmental Education

Chairman, Walter E. Jeske
Soil Conservation Service

Bruce Bandurski
Bureau of Land Management

Alexander J. Barton
National Science Foundation

George M. Bennsky
Council on Environmental Quality

Walter Bogan
U.S. Office of Education

John B. Calhoun
National Institute of Mental Health

Jeff Carroll
Forest Service

Carol Colloton
U.S. Department of State

Don Cook
Environmental Protection Agency

Audrey Dixon
National Park Service

Donald D. Duggan
Department of Energy

Andrew Euston
U.S. Department of Housing and Urban Development

John H. Falk
Smithsonian Institution

Ruth Galaid
Office of Population Affairs, Department of Health, Education and Welfare

Thomas Gause
Small Business Administration

Roy Gordon
U.S. Army Corps of Engineers

Richard Hedrich
National Endowment for the Humanities

Ron Hoffman
Executive Secretariat
U.S. Department of the Interior

Earl Huyck
National Institute of Child Health and Human Development

Frederick Lawton
U.S. Department of State

Stan Lock
National Park Service

Frank Lostumbo
Pan American Health Organization

Hope Moore
Environmental Education Programs
U.S. Department of the Interior

Thomas Murray
National Oceanic & Atmospheric Administration

Wilford L. Nusser
National Institute of Environmental Health Sciences

Mary Jo Oliver
Federal Aviation Administration

John R. Paulk
Tennessee Valley Authority

David Phillips
U.S. Office of Education

George Pratt
U.S. Department of Commerce

Albert Printz
Agency for International Development

Linda Sadler
National Oceanic & Atmospheric Administration

Marcia Stuart
Department of Energy

Kemp Swiney
Extension Service

Frederick B. Tuttle
National Aeronautics and Space Administration

Richard Wakefield
National Institute of Mental Health

Burrell Wood
Department of Energy

FEDERAL INTERAGENCY COMMITTEE ON EDUCATION

Subcommittee on Environmental Education

Task Force on
International Environmental Education

Chairman: Alexander J. Barton
Division of Science Education
Development and Research, National Science Foundation

Vice Chairman: Donald King
Director, Office of Environmental Affairs
U.S. Department of State

Susan Allen
Secretary-Treasurer, Association of Interpretive Naturalists

James L. Aldrich
Executive Director
Alliance for Environmental Education

Paul T. Baker
Department of Anthropology
Pennsylvania State University

Chaplin B. Barnes
Director of International Activities
National Audubon Society

Douglas C. Bauer
Director, Division of Nuclear Research and Applications, Department of Energy

George M. Bennsky
Senior Staff Member for International Affairs, Council on Environmental Quality

Craig C. Black
Director, Carnegie Museum of National History

Walter Bogan
Director, Office of Environmental Education, U.S. Office of Education

Baruch Boxer
Director, International Environmental Studies, Cook College, Rutgers University

Charles L. Cadieux
Office of Assistant Secretary for Energy and Minerals
U.S. Department of the Interior

Robert Cahn
Pat Cahn
The Conservation Foundation

Jeff Carroll
Head, Environmental Education Program
Forest Service

Eugenie Clark
Department of Zoology
University of Maryland

Carol Colloton
U.S. National Commission for UNESCO
Department of State

J. J. Combes
W. R. Grace and Company

Donald Cook
Education and Manpower
Environmental Protection Agency

Robert L. Cook
Deputy Director
Fish and Wildlife Service

C. W. Curris
President
Murray State University

John F. Disinger
ERIC Center for Science, Math & Environmental Education
Ohio State University

Audrey Dixon
Division of Interpretation
National Park Service

David Dodson-Gray
Elizabeth Dodson-Gray
The Bolton Institute

Alfred J. Eggers
Environmental Quality Commission
National Association of Manufacturers

Andrew Euston
Urban Design Program Officer
U.S. Department of Housing and Urban Development

Fred G. Evenden
Executive Director
The Wildlife Society, Inc.

John Falk
Chesapeake Bay Center for Environmental Studies, Smithsonian Institution

Edward Fernald
Resources and Environmental Analysis Center, Florida State University

Eldon H. Franz
Department of Botany
University of Georgia

Sidney R. Galler
Deputy Assistant Secretary for Environmental Affairs
U.S. Department of Commerce

Thomas Gause
Contract Administrator
Small Business Administration

J. William Haun
Vice President, Engineering Policy
General Mills, Inc.

Keith Hay
Director, Conservation Liaison Committee
American Petroleum Institute

Paul W. Hess
Corporate Manager, Environmental Affairs
Hershey Foods Corporation

John Hug
Consultant for Outdoor Education
Ohio State Department of Education

Walter E. Jeske
Chief, Education and Publications
Branch, Soil Conservation Service

Julius E. Johnson
Vice President and Member of the
Board, The Dow Chemical Company

Ronald L. Katz
Legislative Aide to
Senator Lloyd Bentsen

Thomas Kimball
Executive Vice President
National Wildlife Federation

Nancy Kaufman
Education Coordinator
The National Aquarium

Brian Larkin
Executive Director, National Council
for the Social Studies

Frederick Lawton
Bureau of International Organizations
U.S. Department of State

Julie Lesquex
Office of Environmental Education
U.S. Office of Education

J. David Lockard
Director, The International
Clearinghouse on Science and
Mathematics, University of Maryland

Stan Lock
Division of Interpretation
National Park Service

George E. Lowe
Energy and Education Action Center
U.S. Office of Education

James M. McCloy
Sea Grant Program, National Oceanic
and Atmospheric Administration

J. Frank McCormick
Graduate Program in Ecology
University of Tennessee

Ann Dorr McLaughlin
Union Carbide Corporation

Sam McKee
Office of the Foreign Secretary
National Academy of Sciences

June McSwain
Director of Education
American Forest Institute

Dennis F. Miller
Office of Technology Assessment
Congress of the United States

Richard G. Miller
Foresta Institute

George Moore
2516 Centerville Road
Herndon, Virginia

Don Morris
U.S. Committee for UNICEF

Kevin Mullen
Program Officer
Council on Environmental Quality

Michael Nadel
Special Consultant
The Wilderness Society

John Paulk
Projects Manager for Environmental
Education, Tennessee Valley Authority

George Pratt
Special Assistant for Work Education
U.S. Department of Commerce

Marshall Purnell
Administrator, Community Services
American Institute of Architects

R. W. Richardson, Jr.
Director, Natural and Environmental Sciences, The Rockefeller Foundation

Godfrey A. Rockefeller
Executive Director
World Wildlife Fund, Inc.

Francis N. Satterlee
Information Officer, Virginia Commission of Game and Inland Fisheries

Rudolph J. H. Schafer
Environmental Education
California Department of Education

Patricia Scharlin-Rambach
Office of International Environmental Affairs, Sierra Club

Richard B. Scheetz
Coordinator, Educational Services
Edison Electric Institute

Robert Silber
Executive Director
National Science Teachers Association

Sheldon Sixfin
Technical Director, Environmental Systems, The Chase Manhattan Bank

William Stapp
Program Chairman, Environmental Education/Outdoor Recreation,
University of Michigan

Jack Thompson
Office of International Activities
Environmental Protection Agency

Richard Tillis
Director of Environmental Education
Florida Department of Education

W. A. Van Eck
Water Planning Division
Environmental Protection Agency

Stephen Viederman
UN Fund for Population Activities

Raymond E. Wanner
International Programs
U.S. Office of Education

John R. Whitman
Director, INTERNET
Education Development Center

Beatrice E. Willard
Department of Environmental Science
Colorado School of Mines

Burrell L. Wood
Office of Public Affairs
Department of Energy

John Yolton
Director, Conservation and Resource Development Department, United Auto Workers of America

☆U.S. GOVERNMENT PRINTING OFFICE: 1978-260-934/2016

FEDERAL INTERAGENCY COMMITTEE ON EDUCATION
Mary F. Berry, Chairperson
Assistant Secretary for Education
Department of Health, Education and Welfare

Members

*Commissioner of Education
*Director, National Institute of Education
*Department of Agriculture
*Department of Defense
*Department of Energy
*Department of Labor
*Department of State
*National Aeronautics and Space Administration
*National Science Foundation
ACTION
Administration on Aging
Alcohol, Drug Abuse, and Mental Health Administration
Civil Service Commission
Community Services Commission
Department of Commerce
Department of Housing and Urban Development
Department of the Interior
Department of Justice
Environmental Protection Agency
Federal Communications Commission
National Endowment for the Arts
National Endowment for the Humanities
National Institutes of Health
Office of the Assistant Secretary for Health, HEW
Office of Child Development
Small Business Administration
Tennessee Valley Authority
Veterans Administration

Observers

*Office of Management and Budget
*Council on Economic Advisors
Council on Environmental Quality
National Academy of Sciences
Smithsonian Institution

Bernard Michael
Executive Director
Federal Interagency Committee on Education
Room 313-H
200 Independence Avenue, S.W.
Washington, D.C. 20021

*Agencies named in Executive Order 11761

GREENLAND
UNITED STATES (ALASKA)
CANADA
UNITED STATES
ICELAND
FAEROE IS.
NORWAY
SWEDEN
UNITED KINGDOM
IRELAND
NETH
POLAND
CHANNEL IS.
FRANCE
PORTUGAL
SPAIN
ITALY
ALBANIA
GREECE
TUNISIA
MOROCCO
BERMUDA
ALGERIA
LIBYA
SPANISH SAHARA
MEXICO
CUBA
BAHAMAS
DOMINICAN REPUBLIC
HAITI
PUERTO RICO
JAMAICA
HONDURAS
BARBADOS
CAPE VERDE IS.
GAMBIA
SENEGAL
MAURITANIA
MALI
NIGER
UNITED STATES (HAWAIIAN IS.)
BELIZE
GUATEMALA
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
CANAL ZONE
TRINIDAD AND TOBAGO
VENEZUELA
COLOMBIA
GUINEA-BISSAU
GUINEA
IVORY COAST
SIERRA LEONE
LIBERIA
SURINAM
UPPER VOLTA
BENIN
NIGERIA
CHAD
CENTRAL AFRICAN REPUBLIC
CAMEROON
TOGO
GHANA
EQUATORIAL GUINEA
GABON
CONGO
ECUADOR
GUYANA
FRENCH GUIANA
PERU
BRAZIL
BOLIVIA
PARAGUAY
ANGOLA
NAMIBIA
ARGENTINA
URUGUAY
CHILE
COOK IS.
FALKLAND IS